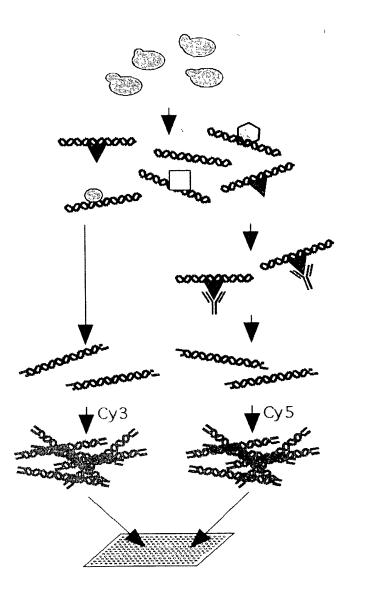
Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.



Crosslink protein to DNA in vivo with formaldehyde

Break open cells and shear DNA

Immunoprecipitate

Reverse-crosslinks, blunt DNA and ligate to unidirectional linkers

LM-PCR

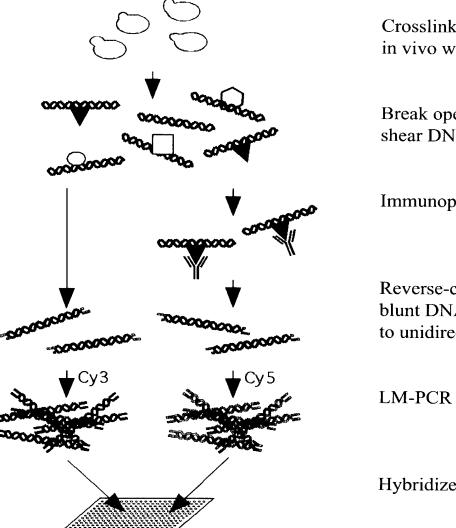
Hybridize to array

FIGURE 1

App No.: 10/032,281 tipical presidental

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FIGURE 1



10/032,281

Title: Genome-Wide Location and Function...

Inventors:

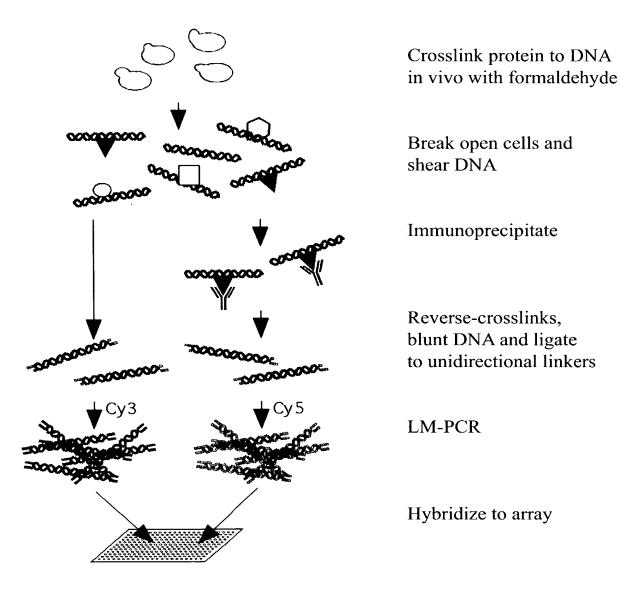


FIGURE 1



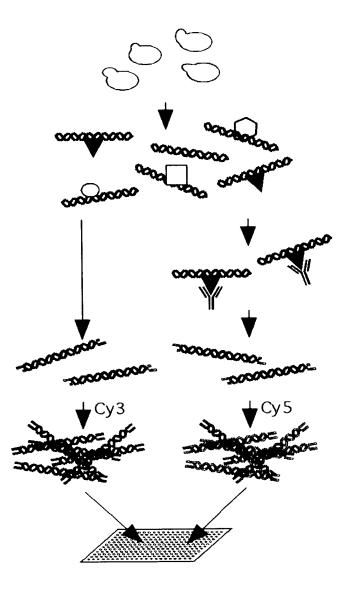
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FIGURE 1



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Title: Genome-Wide Location and Function...

Inventors:

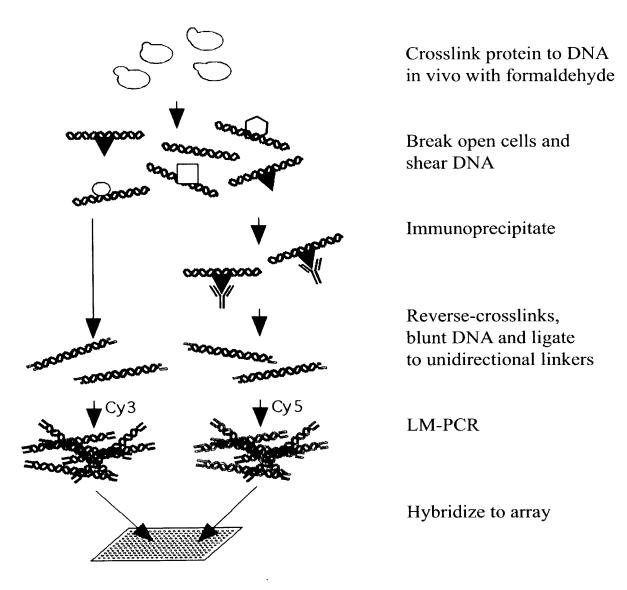


FIGURE 1



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App No.: 10/032,281 Title: Genome-Wide Location and Function...
Inventors: John Wyrick, et al.

Triplicate experiments	Scanning		Single-arr error mod	•	Weighted average
ChIP-1 ──►	Scan-1		Data-1	<u></u>	
ChIP-2 ──►	Scan-2		Data-2	→ X	Final data
ChIP-3 ──►	Scan-3		Data-3		

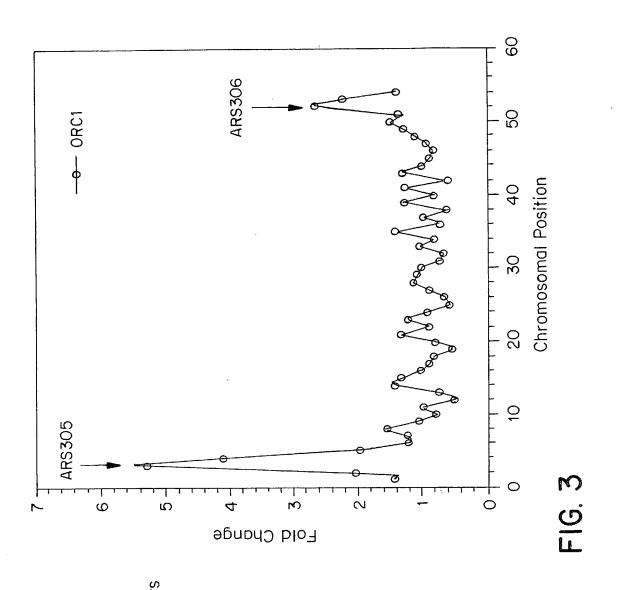
FIGURE 2



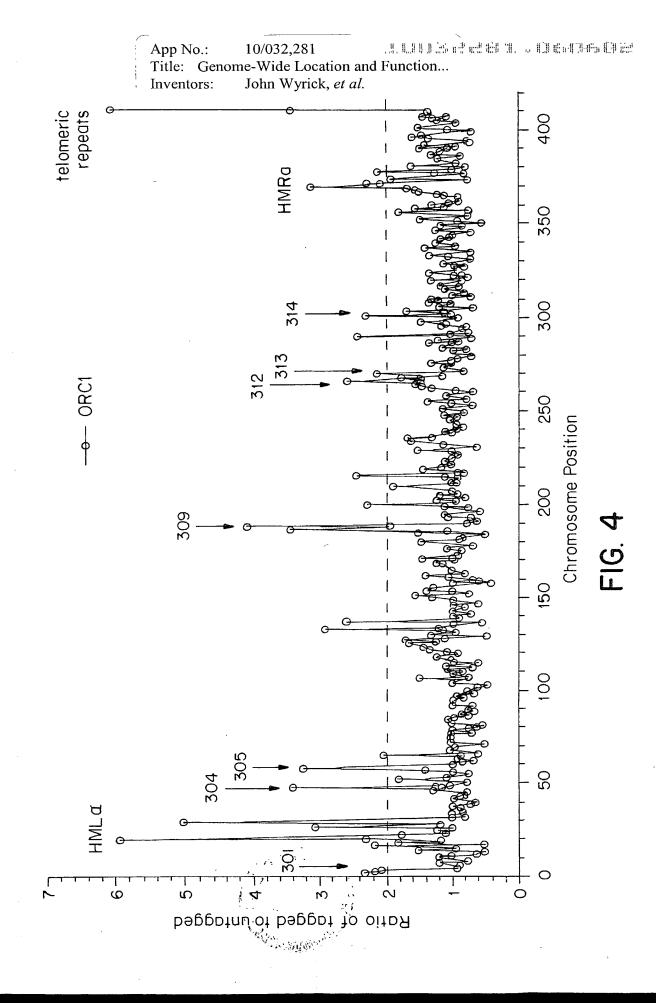
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App No.: 10/032,281 INTERESTRICT Title: Genome-Wide Location and Function...

Inventors:



General Transcription Factors SRB/Mediator Complex RNA Polymerase II SWI/SNF Complex SAGA ORC complex Interests:



10/032,281

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Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.

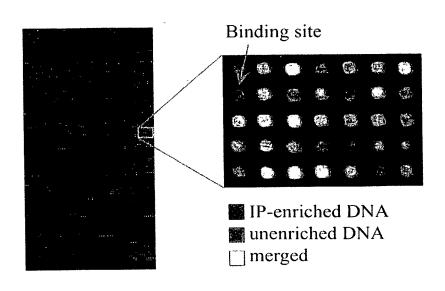
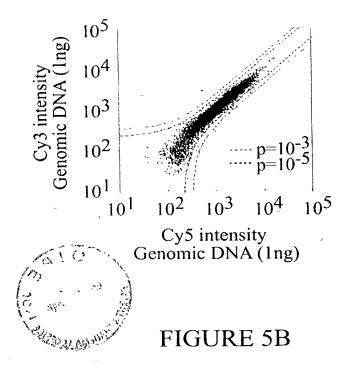


FIGURE 5A



Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

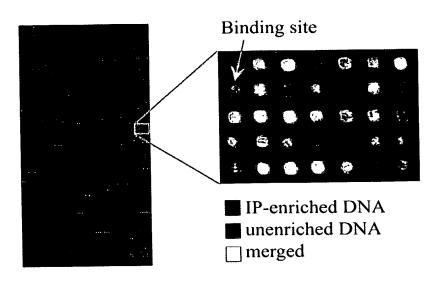


FIGURE 5A

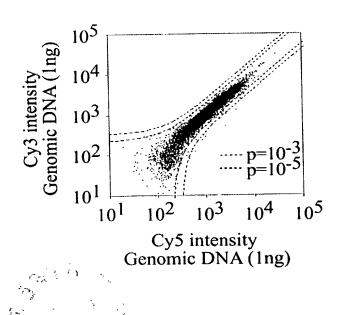


FIGURE 5B

App No.: 10/032,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

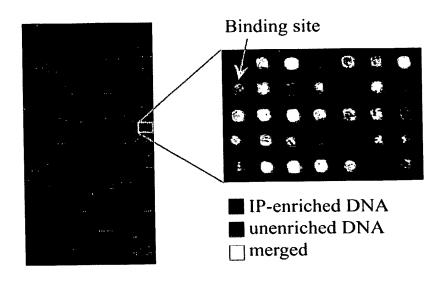
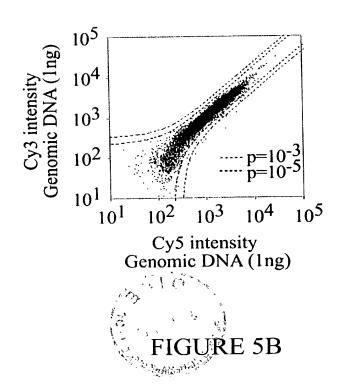


FIGURE 5A



App No.: 10/032,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

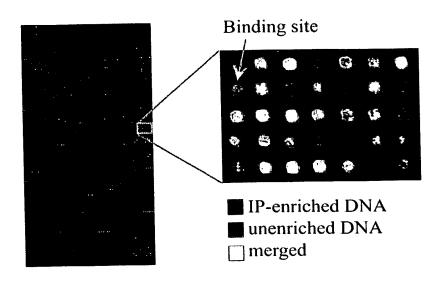
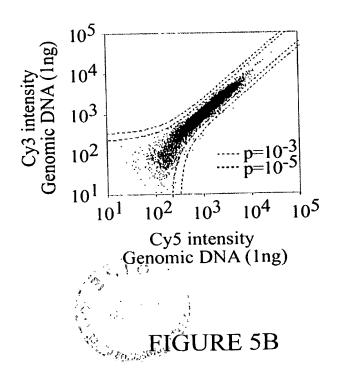


FIGURE 5A



sëëta densk 10/032,281 App No.: Genome-Wide Location and Function... John Wyrick, et al. Drug-efflux pump involved in resistance to multiple drugs (adjacent to GAL3) Multicopy suppressor of the Gal(-) phenotype of snf1 mig1 srb8/10/11 cells Oyclin that associates with Pho85p, involved in glycogen accumulation Regulatory protein required for rapid induction of galactose pathway Zinc-finger protein required for transcriptional activation of CHA1 Negative regulator for expression of galactose-induced genes Required for synthesis of the mannosylated sphingolipids Component of the anaphase-promoting complex (APC) Unknown function (share intergenic region with GAL3) Jnknown function (share intergenic region with GCY1) JDP-glucose--hexose-1-phosphate uridylyltransferase >5/1 Galactokinase, first step in galactose metabolism Ribosomal protein L4, Gene (adjacent to GAL3) Jnknown function, (adjacent to PCL10) Jnknown function (adjacent_to GAL1) Jnknown function (adjacent to GAL3) Repressor of hexose transport genes Jracil permease (adjacent to GAL1) Salactose-induced oxidoreductase Pyridoxine phosphate oxidase RNA subunit of telomerase JDP-glucose 4-epimerase Jnknown function FIGURE 6A 6.4X10-10 1.3X10-07 2.4X10-06 2.8X10-06 9.1X10-06 1.5X10-09 1X10-06 1.1X10-06 2.0X10-06 9.8X10-06 3.5X10-10 1.5X10-09 4.3X10-08 2.4X10-07 8.8X10-06 1.2X10-10 3.5X10-10 4.8X10-10 .2X10-07 1.2X10-07 1.3X10-07 3.4X10-07 7.0X10-07 % 1.8X10+00 1.2X10+00 1.1X10+00 1.1X10+00 .9X10+00 1.3X10+00 .9X10+00 .9X10+00 1.2X10+00 .2X10+00 1.8X10+00 1.9X10+00 6,6X10-02 2.0X10+00 2.0X10+00 1.7X10-02 2.9X10-02 1.9X10-01 4.1X10-01 5.5X10-01 5.4X10-01 6.0X10-01 6.0X10-01 >3/1 6.0 6.0 /GL132W **/BR022W** /DR008C YJR044C **7DR010C ?PL4B** CHA4 GAL80 PC 13 SNQ2 APC9 GAL 10 2862 PDX3 FUR4 6CY1 MH 801 GAL7 SAL1

Galactose permease

188.6

1.5X10-10

2.5X10-02

Ratio p-value Gal/Glu Description

Ratio p-value

Name

(Gal/Glu)

Glucose

Ratio

Galactose

Glucose

Expression

Binding

nencarrent a la constant App No.: 10/032,281 Genome-Wide Location and Function... John Wyrick, et al. Multicopy suppressor of the Gal(-) phenotype of snf1 mig1 srb8/10/11 cells Drug-efflux pump involved in resistance to multiple drugs (adjacent to GAL3) Cyclin that associates with Pho85p, involved in glycogen accumulation Regulatory protein required for rapid induction of galactose pathway Zinc-finger protein required for transcriptional activation of CHA1 Negative regulator for expression of galactose-induced genes Required for synthesis of the mannosylated sphingolipids Component of the anaphase-promoting complex (APC) Unknown function (share intergenic region with GAL3) Jnknown function (share intergenic region with GCY1) UDP-glucose--hexose-1-phosphate uridylyltransferase >5/1 Galactokinase, first step in galactose metabolism Ribosomal protein L4, Gene (adjacent to GAL3) Jnknown function, (adjacent to PCL10) Unknown function (adjacent to GAL1) Jnknown function (adjacent to GAL3) Repressor of hexose transport genes Uracil permease (adjacent to GAL1) Galactose-induced oxidoreductase Pyridoxine phosphate oxidase RNA subunit of telomerase UDP-glucose 4-epimerase Galactose permease Jnknown function FIGURE 6A 4.6 18.8 71.3 1.5X10-10 9.1X10-06 2.4X10-06 9.8X10-06 3.5X10-10 6.4X10-10 1.3X10-07 1.1X10-06 1.1X10-06 2.0X10-06 2.8X10-06 1.5X10-09 4.8X10-10 3.4X10-07 2.4X10-07 8.8X10-06 1.2X10-10 3.5X10-10 .2X10-07 .2X10-07 1.3X10-07 1.5X10-09 4.3X10-08 7.0X10-07 7.8 4.6 .2X10+00 .1X10+00 1.1X10+00 .9X10+00 1.3X10+00 1.8X10+00 1.8X10+00 .9X10+00 1.9X10+00 6.6X10-02 .9X10-01 .2X10+00 1.2X10+00 1.9X10+00 1.7X10-02 2.9X10-02 4.1X10-01 2.0X10+00 2.0X10+00 5.5X10-01 2.5X10-02 5.4X10-01 6.0X10-01 6.0X10-01 0.9 €. **/GL132W** rBR022W **70K010C** YDR008C YJR044C **RPL4B** GAL 10 GAL80 PCL 10 SN₀2 CHA4 APC9 SSS FUR4 **PDX3** GAL7 <u></u> MH1 101 <u></u> GAL3 GAL1 Expression

Ratio p-value Gal/Glu Description

Ratio p-value

Name

(Gal/Glu)

Galactose Glucose

CLAMB ST

Ratio

Galactose

Glucose

Expression

10/032,281 App No.: ACCOMANA A CONTRACTOR Genome-Wide Location and Function... John Wyrick, et al. Inventors: Multicopy suppressor of the Gal(-) phenotype of snf1 mig1 srb8/10/11 cells Drug-efflux pump involved in resistance to multiple drugs (adjacent to GAL3) Cyclin that associates with Pho85p, involved in glycogen accumulation Zinc-finger protein required for transcriptional activation of CHA1 Negative regulator for expression of galactose-induced genes Required for synthesis of the mannosylated sphingolipids Component of the anaphase-promoting complex (APC) Unknown function (share intergenic region with GAL3) Jnknown function (share intergenic region with GCY1) UDP-glucose-hexose-1-phosphate uridylyltransferase >5/1 Galactokinase, first step in galactose metabolism Ribosomal protein L4, Gene (adjacent to GAL3) Jnknown function, (adjacent to PCL10) Unknown function (adjacent to GAL1) Unknown function (adjacent to GAL3) Repressor of hexose transport genes Uracil permease (adjacent to GAL1) Galactose-induced oxidoreductase Pyridoxine phosphate oxidase RNA subunit of telomerase UDP-qlucose 4-epimerase Jnknown function FIGURE 6A 18.8 4.6 271.3 2.4X10-06 9.1X10-06 9.8X10-06 1.1X10-06 2.0X10-06 2.8X10-06 1.1X10-06 6.4X10-10 .5X10-09 1.3X10-07 2.4X10-07 3.5X10-10 4.8X10-10 .2X10-07 3.4X10-07 .5X10-09 8.8X10-06 1.2X10-10 .2X10-07 1.3X10-07 4.3X10-08 7.0X10-07 4.6 .1X10+00 1.1X10+00 .3X10+00 1.8X10+00 .9X10+00 .9X10+00 .2X10+00 1.9X10+00 .2X10+00 .9X10+00 1.8X10+00 1,7X10-02 6.6X10-02 1.9X10-01 4.1X10-01 .2X10+00 2.9X10-02 2.0X10+00 2.0X10+00 5.5X10-01 6.0X10-01 6,0X10-01 6.0 0.9 0.9 9.4 <u>...</u> YBR022W **YGL132W 7DR010C** YDR008C YJR044C

RPL48

CHA4

SN02

PDX3

<u>응</u>

APC9 2983

Regulatory protein required for rapid induction of galactose pathway

Galactose permease

1.5X10-10

3.5X10-10

5.4X10-01 2.5X10-02

GAL80

至

2000

GAL10

GAL1 GAL7

FUR4 <u></u>23

Ratio p-value Gal/Glu Description

Ratio p-value

Name

(GalGlu) Expression

Glucose

Ratio

Galactose

Glucose

Expression

Genome-Wide Location and Function... John Wyrick, et al. Drug-efflux pump involved in resistance to multiple drugs (adjacent to GAL3) Multicopy suppressor of the Gal(-) phenotype of snf1 mig1 srb8/10/11 cells Syclin that associates with Pho85p, involved in glycogen accumulation Regulatory protein required for rapid induction of galactose pathway Zinc-finger protein required for transcriptional activation of CHA1 Negative regulator for expression of galactose-induced genes Required for synthesis of the mannosylated sphingolipids Component of the anaphase-promoting complex (APC) Unknown function (share intergenic region with GAL3) Unknown function (share intergenic region with GCY1) UDP-qlucose--hexose-1-phosphate uridylyltransferase >5/1 Salactokinase, first step in galactose metabolism Ribosomal protein L4, Gene (adjacent to GAL3) Jnknown function, (adjacent to PCL10) Unknown function (adjacent_to GAL1) Unknown function (adjacent to GAL3) Repressor of hexose transport genes Jracil permease (adjacent to GAL1) Salactose-induced oxidoreductase Pyridoxine phosphate oxidase RNA subunit of telomerase UDP-qlucose 4-epimerase Galactose permease Juknown function Ratio p-value Gal/Glu Description Expression FIGURE 6A 188.6 18.2 9 1.5X10-10 1.1X10-06 1.2X10-07 2.4X10-06 9.1X10-06 9.8X10-06 3.5X10-10 6.4X10-10 2.0X10-06 2.8X10-06 .5X10-09 .5X10-09 4.3X10-08 2.4X10-07 8.8X10-06 1.2X10-10 3.5X10-10 4.8X10-10 .2X10-07 1.3X10-07 3.4X10-07 .1X10-06 7.0X10-07 1.3X10-07 Galactose 4.6 .2X10+00 .1X10+00 .9X10+00 .1X10+00 .9X10+00 3X10+00 .8X10+00 .9X10+00 .8X10+00 .7X10-02 .9X10+00 Ratio p-value 2.0X10+00 2.0X10+00 .2X10+00 1.2X10+00 5.5X10-01 2.9X10-02 6.6X10-02 .9X10-01 4.1X10-01 2.5X10-02 5.4X10-01 6.0X10-01 6.0X10-01 Glacose .3 **r**GL132W /BR022W YJR044C **DR010C** YDR008C Name **RPL48** GAL 10 GAL80 R 13 SN₀2 **P** CHA4 MHI **PDX3** FUR4 GAL7 £23 801 (Gal/Glu) **Expression** Binding, ij Glucose

A. Allandia M. S.

10/032,281

John Wyrick, et al. Inventors: CAT5 UBP2 RIO1 YOR121C PFY1 LEO1 **YENI** AKEs 💆 LFCI GIZ3 b@W5 FIGURE 6B CYT4 bCF10 IHTM **CCAI** GAL80 CAL7 RPT5 GAL3 ı QAL1/10 Pellet Input RP031 Watson ORFs -Crick ORFs Gal4 binding Intergenic regions

App No.: 10/032,281 1.111132231 1.1515151 Title: Genome-Wide Location and Function...

FIGURE 6C

App No.: 10/032,281 Title: Genome-Wide Location and Function... John Wyrick, et al. Inventors: CAT5 UBP2 RIO1 YOR121C PFY1 LEO1 ARNI ₹ KEE LFC1 GIZ3 **b**CW5 FIGURE 6C FIGURE 6B $GV\Gamma t$ bCF10 MLH1 GCKI GYF80 GYF1 **GAL3** GAL2 QAL1/10 Pellet Input RPO31 Watson ORFs -Crick ORFs Gal4 binding Intergenic regions

10/032,281

App No.: 10/032,281 John Wyrick, et al. Inventors: CAT5 UBP2 RIO1 YOR121C PFY1 LEO1 ARNI **₹** KEE LFCI GIS3 **b**CW5 FIGURE 6C FIGURE 6B CV^{\dagger} bCF10 IHTM **CCXI** GAL80 GAL3 GAL2 QAL1/10 Pellet Input **RPO31** Watson ORFs -Crick ORFs Gal4 binding Intergenic regions

PURSERUS TENEDEDE

App No.: 10/032,281 FIFT SEED AND SOLET Title: Genome-Wide Location and Function... John Wyrick, et al. Inventors: CAT5 UBP2 RIO1 YOR121C PFY1 LEO1 ARNI ₹ KKEs LLC1 CI23 **b**CW5 FIGURE 6C FIGURE 6B $\mathsf{G}\mathsf{V}\mathsf{\Gamma}\mathsf{t}$ bCF10 MLH1 **CCAI** GAL80 **GAL7 GAL3** GAL2 QAL1/10 Pellet Input RP031 Watson ORFs -Crick ORFs Gal4 binding Intergenic regions

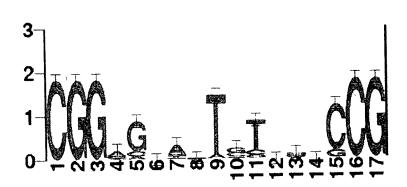


FIGURE 6D



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App No.: 10/032,281

Inventors:

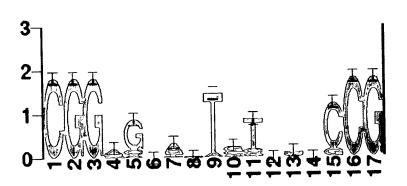


FIGURE 6D



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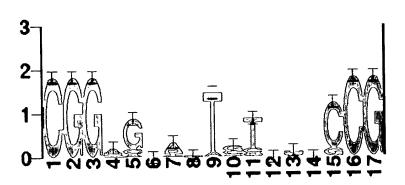


FIGURE 6D



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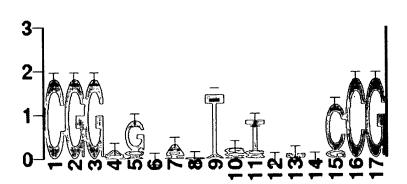


FIGURE 6D



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App No.: 10/032,281 # Title: Genome-Wide Location and Function...

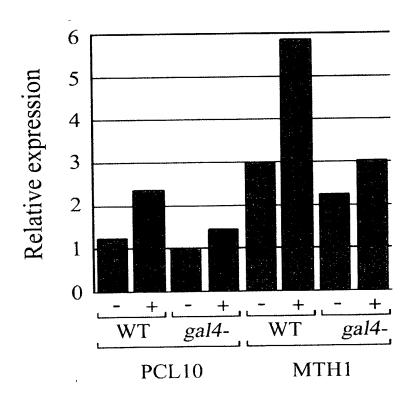


FIGURE 6E



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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

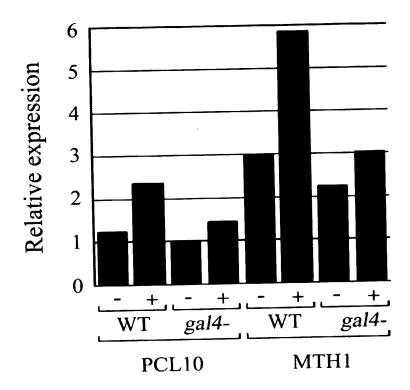


FIGURE 6E



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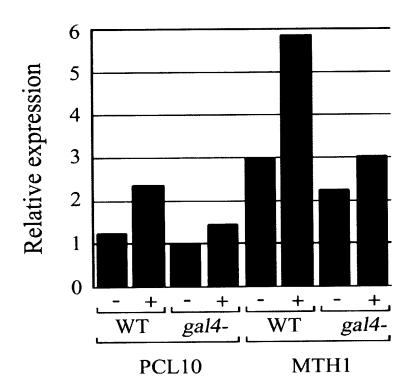


FIGURE 6E



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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

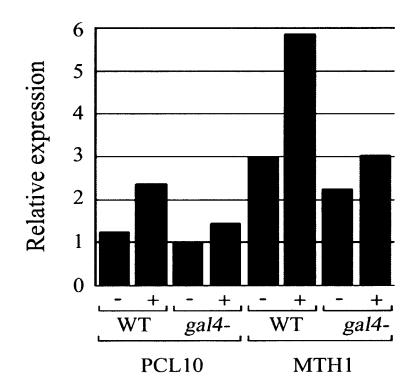


FIGURE 6E



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TOSETHAL MOUBLE

Title: Genome-Wide Location and Function...

Inventors:

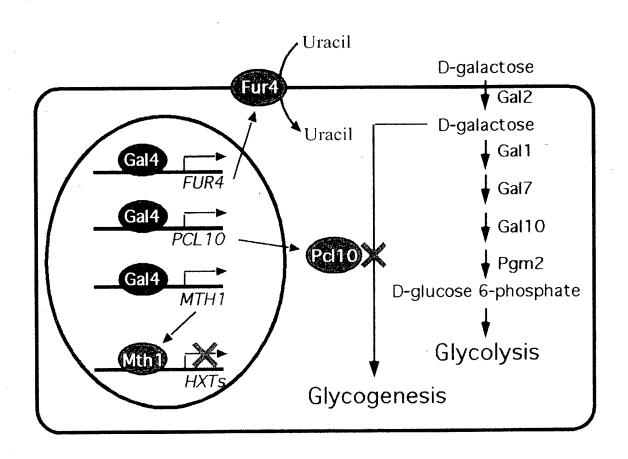


FIGURE 6F



App No.: 10/032,281 ELLISTED TO CONTROL Title: Genome-Wide Location and Function...

John Wyrick, et al. Inventors:

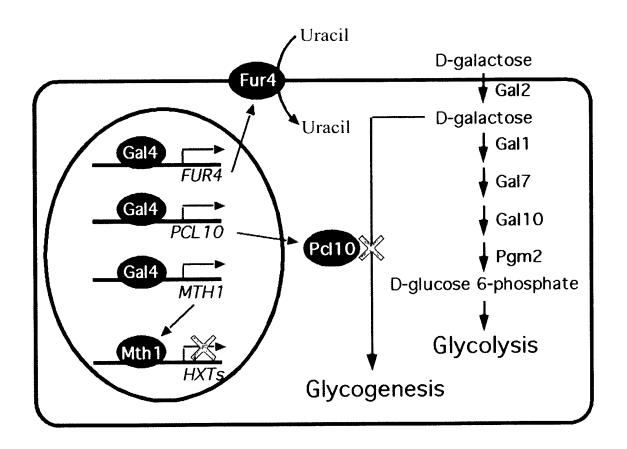


FIGURE 6F



Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

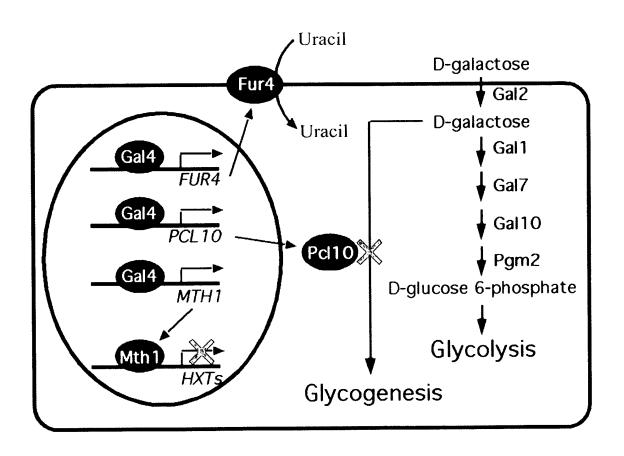


FIGURE 6F



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Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

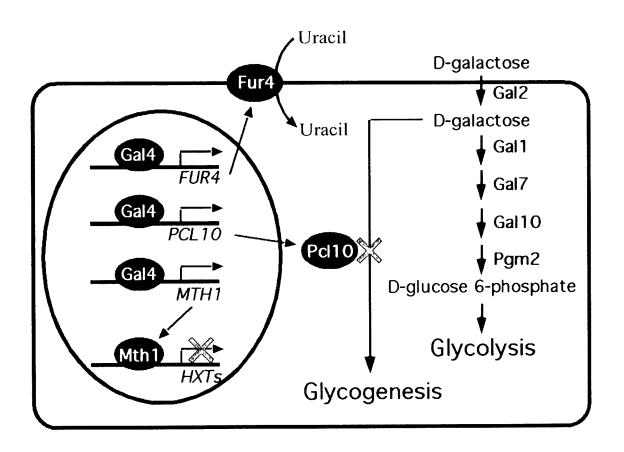
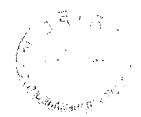


FIGURE 6F



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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors:

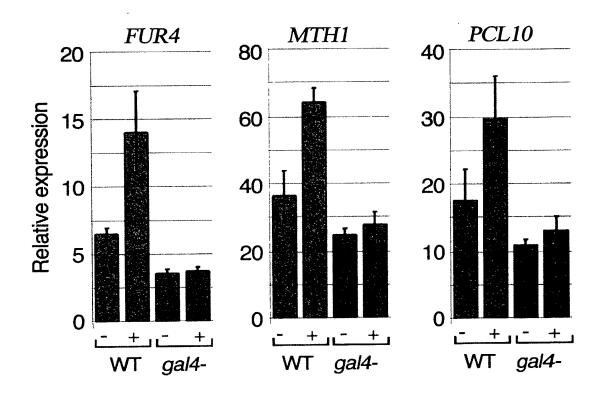


FIGURE 6G



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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors:

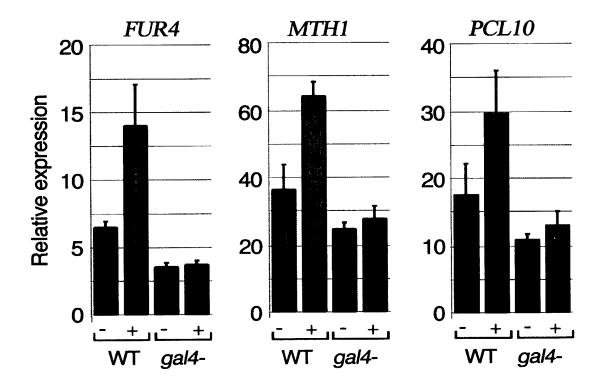


FIGURE 6G



App No.: 10/032,281 A REGISTRIC Title: Genome-Wide Location and Function... ADIA CHALL ADECE

Inventors: John Wyrick, et al.

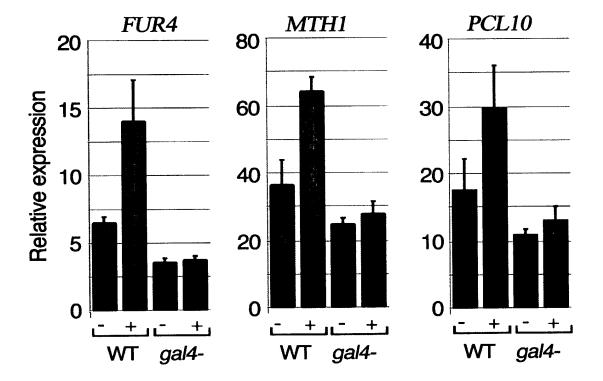


FIGURE 6G



App No.: 10/032,281 Title: Genome-Wide Location and Function... and territal norocoscie

Inventors: John Wyrick, et al.

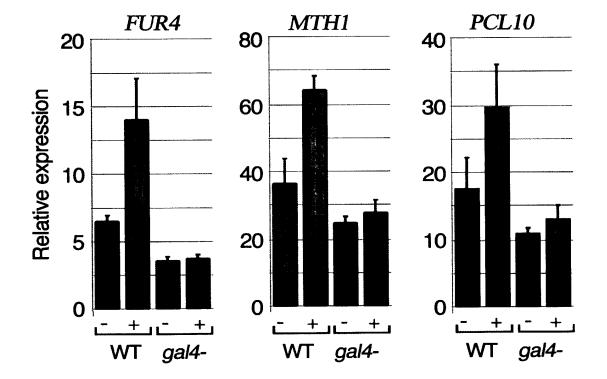


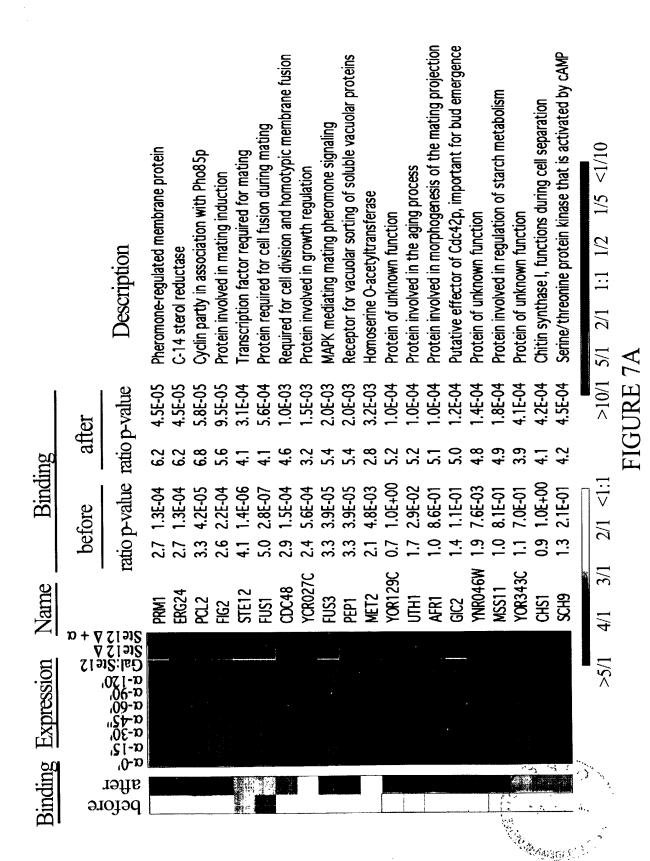
FIGURE 6G



App No.: 10/032,281 Title: Genome-Wide Location and Function...
Inventors: John Wyrick, et al.

		Description	Pheromone-regulated membrane protein	C-14 sterol reductase	Cyclin partly in association with Pho85p	Protein involved in mating induction	Transcription factor required for mating	Protein required for cell fusion during mating	Required for cell division and homotypic membrane fusion	Protein involved in growth regulation	MAPK mediating mating pheromone signaling	Receptor for vacuolar sorting of soluble vacuolar proteins	Homoserine O-acetyltransferase	Protein of unknown function	Protein involved in the aging process	Protein involved in morphogenesis of the mating projection	Putative effector of Cdc42p, important for bud emergence	Protein of unknown function	Protein involved in regulation of starch metabolism	Protein of unknown function	Chitin synthase I, functions during cell separation	Serine/threonine protein kinase that is activated by cAMP		5/1 2/1 1:1 1/2 1/5 <1/10	
	after	ratio p-value	4.5E-05	4.5E-05	5.8E-05	9.5E-05	3.1E-04	5.6E-04	1.0E-03	1.5E-03	2.0E-03	2.0E-03	3.2E-03	1.0E-04	1.0E-04	1.0E-04	1.2E-04	1.4E-04	1.8E-04	4.1E-04	4.2E-04	4.5E-04		>10/1 5/1	L TITLE
ing	ਲ	ratio	6.2	6.2	6.8	5.6	4.1	4.1	4.6	3.2	5.4	5.4	2.8	5.2	5.5	5,1	5.0	4.8	4.9	3.9	4	4.2			71.1
Binding	before	ratio p-value	.7 1.3E-04	7 1.3E-04	3.3 4.2E-05	2.6 2.2E-04	1.1 1.4E-06	3.0 2.8E-07	2.9 1.5E-04	2.4 5.6E-04	3.3 3.9E-05	3.3 3.9E-05	2.1 4.8E-03	0.7 1.0E+00	1.7 2.9E-02	1.0 8.6E-01	1.4 1.1E-01	1.9 7.6E-03	1.0 8.1E-01	1.1 7.0E-01	0.9 1.0E+00	1.3 2.1E-01	こののでは	2/1 <1:1	
Name	!		PRM1 2	ERG24 2	PCL2 3	FIG2 2	STE12 4	FUS1	CDC48	ပ္	FUS3	PEP1	MET2	YOR129C (UTH1	AFR1	. 2015	YNR046W	MSS11	YOR343C	CHS1	SCF3		4/1 3/1	
Binding Expression	, 213: 2 4 x	a-15' a-15' a-10'							PANCETA.															>5/1	
Binding	e.i.	beto after a-0'																				anas Pang	O' AN	And the second	•

App No.: 10/032,281 Title: Genome-Wide Location and Function...
Inventors: John Wyrick, et al.



App No.: 10/032,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

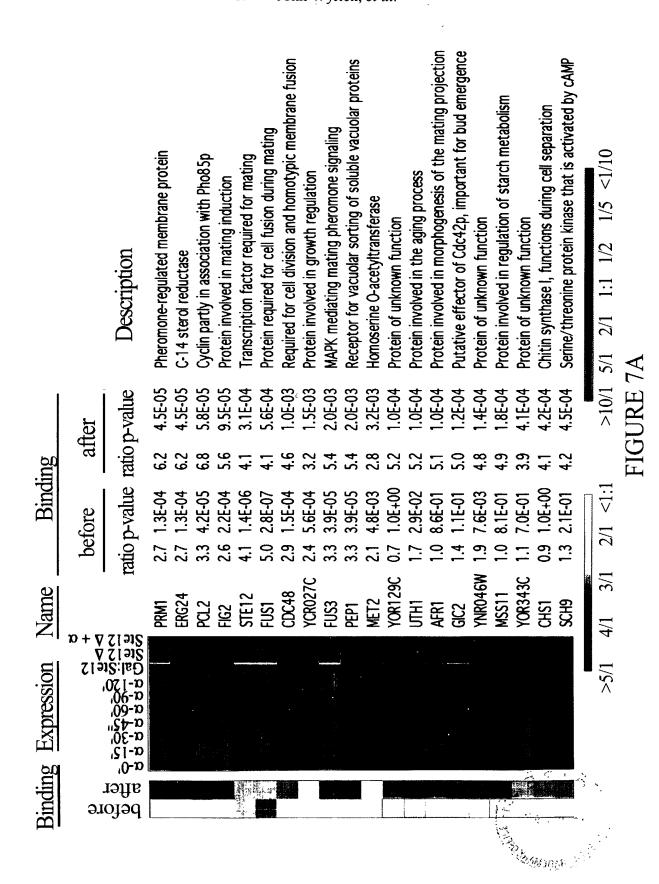
		Description	Pheromone-regulated membrane protein	C-14 sterol reductase	Cyclin partly in association with Pho85p	Protein involved in mating induction	Transcription factor required for mating	Protein required for cell fusion during mating	Required for cell division and homotypic membrane fusion	Protein involved in growth regulation	MAPK mediating mating pheromone signaling	Receptor for vacuolar sorting of soluble vacuolar proteins	Homoserine O-acetyltransferase	Protein of unknown function	Protein involved in the aging process	Protein involved in morphogenesis of the mating projection	Putative effector of Cdc42p, important for bud emergence	Protein of unknown function	Protein involved in regulation of starch metabolism	Protein of unknown function	Chitin synthase I, functions during cell separation	Serine/threonine protein kinase that is activated by cAMP	1.1 1.0	5/1 2/1 1:1 1/2 1/3 <1/10
	after	ratio p-value	4.5E-05	4.5E-05	5.8E-05	9.5E-05	3.1E-04	5.6E-04	1.0E-03	1.5E-03	2.0E-03	2.0E-03	3.2E-03	1.0E-04	1.0E-04	1.0E-04	1.2E-04	1.4E-04	1.8E-04	4.1E-04	4.2E-04	4.5E-04	1/01/	>10/1 3/1
ing	a	ratio	6.2	6.2	6.8	5.6	4.1	4.1	4.6	3.2	5.4	5.4	2.8	5.5	5.2	5.1	5.0	4.8	4.9	3.9	4.1	4.2		Ì
Binding	before	ratio p-value	2.7 1.3E-04	2.7 1.3E-04	3.3 4.2E-05	2.6 2.2E-04	4.1 1.4E-06	5.0 2.8E-07	2.9 1.5E-04	2.4 5.6E-04	3.3 3.9E-05	3.3 3.9E-05	2.1 4.8E-03	0.7 1.0E+00	1.7 2.9E-02	1.0 8.6E-01	1.4 1.1E-01	1.9 7.6E-03	1.0 8.1E-01	1.1 7.0E-01	0.9 1.0E+00	1.3 2.1E-01	1 1	Z/1 <1:1
Name	20.4		PRM1	ERG24	PCL2	FIG2	STE12	FUS1	CDC48	YCR027C	FUS3	PEP1	MET2	YOR129C	UH1	AFR1	CIC2	YNR046W	MSS11	YOR343C	CHS1	SCH3		4/1 5/1
	, te 12 Δ Δ + α	a-150 a-300 a-600 a-150									,													>5/1
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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.



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App No.: 10/032,281 *** Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

		Description	Membrane protein required for homotypic nuclear fusion	Protein of unknown function	Protein of unknown function	Protein of the spindle pole body	Moderately similarto mammalian neutral sphingomyelinases	Protein of unknown function	Phosphoglucomutase	Protein of unknown function	Protein of unknown function	a-Agglutinin anchor subunit	Similar to S. cerevisiae glucan 1,4-alpha-glucosidase	Synaptobrevin (v-SNARE) homolog	Involved in spindle formation and karyogamy	Involved in cell cycle arrest for mating	CDK inhibitor for Pho80p-Pho85p complex			Protein required for efficient mating		>10/1 5/1 2/1 1:1 1/2 1/3 <1/10	В
ව්	after	ratio p-value	3.8 4.7E-04	3.8 5.1E-04	3.6 6.5E-04	4.1 6.6E-04	4.1 6.6E-04	3.6 7.1E-04	3.8 7.2E-04	3.4 8.2E-04	3.3 1.2E-03	3.1 1.9E-03	3.0 2.1E-03	3.0 2.2E-03	3.0 2.2E-03	3.0 2.4E-03	2.9 2.7E-03	2.7 4.5E-03	2.7 4.9E-03	2.9 5.0E-03		>10/1 \$	FIGURE 7B
Binding	before	ratio p-value ratio p-value	1.2 3.7E-01	3W-A 1.5 1.0E-01	0.9 1.0E+00	1.3 2.0E-01		1.0 6.7E-01	2.0 6.1E-03			1.4 1.1E-01		0.9 1.0E+00	0.9 1.0E+00	1.3 2.2E-01	1.0 8.3E-01	1.5 7.4E-02	1.4 1.8E-01	1.2 3.8E-01	一个发表。例如此是	2/1 <1:1	14
Name		,	KARS	YER048W-A	YPL192C	SPC25	YER019W	YIL083C	PGM1	YIL037C	YIL169C	AGA1	YOL 155C	Ĭ	S	FAR1	PH081	YNR064C	HYM1	FIG1		4/1 3/1	
Binding Expression	_ \	x-15' x-30' x-30' x-30' x-45' x-45' x-15' x-15' x-15' x-15'													· · · · · · · · · · · · · · · · · · ·		42				d de	>5/1	
Binding	Э.	befor after			E lamba				ad.										KNSC			· •	

Genome-Wide Location and Function.. John Wyrick, et al. Similar to S. cerevisiae glucan 1,4-alpha-glucosidase Protein with similarity to Aspergillus nidulans hymA Similar to Rhodobacter capsulatus bchO protein involved in spindle formation and karyogamy CDK inhibitor for Pho80p-Pho85p complex Involved in cell cycle arrest for mating 1/5 <1/10 Protein required for efficient mating Synaptobrevin (v-SNARE) homolog Protein of unknown function a-Agglutinin anchor subunit 2/1 1:1 1/2 >10/1 5/1 FIGURE 7B 2.2E-03 2.4E-03 2.7E-03 4.5E-03 4.9E-03 2.1E-03 2.2E-03 1.2E-03 5.0E-03 .9E-03 1.0E+00 1.0E+00 7.4E-02 1.8E-01 2.2E-01 7.2E-02 7.3E-01 3.8E-01 .1E-01 7, YOL 155C 3/1 YNR064C YIL169C 4/1

Moderately similarto mammalian neutral sphingomyelinases Membrane protein required for homotypic nuclear fusion Protein of the spindle pole body Protein of unknown function Protein of unknown function Protein of unknown function Protein of unknown function Phosphoglucomutase Description 5.1E-04 6.5E-04 6.6E-04 6.6E-04 7.1E-04 7.2E-04 8.2E-04 ratio p-value ratio p-value after Binding 1.0E+00 2.0E-01 2.0E-01 6.7E-01 5.5E-01 before (ER048W-A 1.5 PL 1920 **FR019W** YIL083C YIL037C Name **SPC25** PGM 1 Gal:Ste12 Ste12 A Ste12 A + Binding Expression a-30, a-12, α-0, after before Samingari.

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Inventors:

Title:

10/032,281

John Wyrick, et al. Inventors: Moderately similarto mammalian neutral sphingomyelinases Membrane protein required for homotypic nuclear fusion Similar to S. cerevisiae glucan 1,4-alpha-glucosidase Protein with similarity to Aspergillus nidulans hymA Similar to Rhodobacter capsulatus bchO protein nvolved in spindle formation and karyogamy CDK inhibitor for Pho80p-Pho85p complex nvolved in cell cycle arrest for mating 1/5 <1/10 Protein required for efficient mating Synaptobrevin (v-SNARE) homolog Protein of the spindle pole body Protein of unknown function a-Agglutinin anchor subunit Phosphoglucomutase 2/1 1:1 1/2 Description >10/1 5/1 4.9E-03 5.0E-03 2.4E-03 4.5E-03 2.2E-03 2.7E-03 7.2E-04 1.9E-03 2.1E-03 5.1E-04 6.5E-04 6.6E-04 6.6E-04 7.1E-04 8.2E-04 1.2E-03 2.2E-03 ratio p-value ratio p-value after 3.00 Binding 1.0E+00 1.0E+00 1.0E+00 7.4E-02 8.3E-01 1.8E-01 3.8E-01 7.2E-02 7.3E-01 2.2E-01 2.0E-01 6.1E-03 5.5E-01 .1E-01 2.0E-01 6.7E-01 before 2/1 YER048W-A 1.5 3/1 YER019W YOL 155C **YPL 192C** YNR064C **YIL083C YIL037C YIL169C** Name PE081 AGA1 PGM1 4/1 Gal:Ste12 Ste12 A Ste12 A + Expression Binding α-0, after Magalla. before

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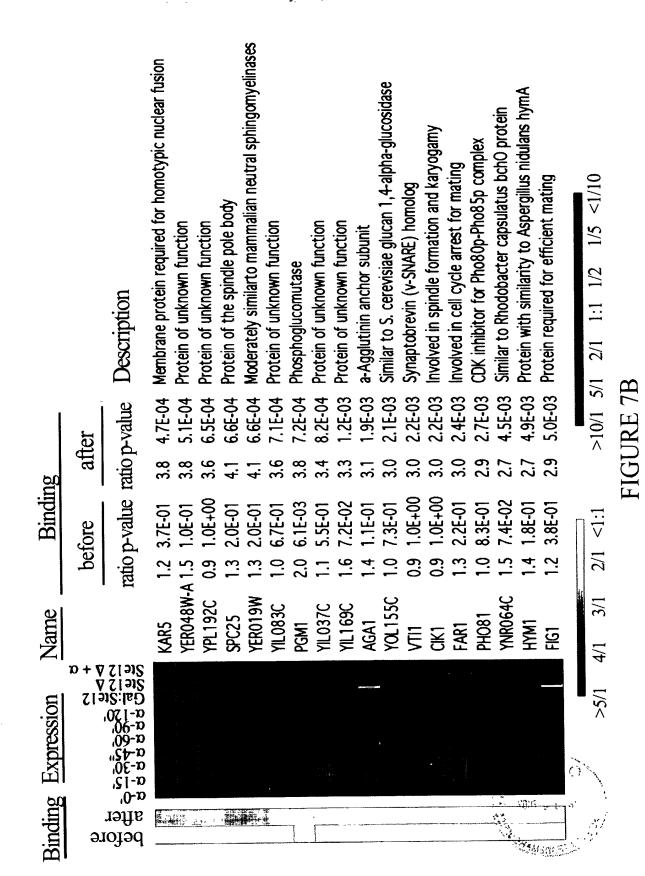
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FIGURE 7B

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John Wyrick, et al. Inventors:



John Wyrick, et al. Inventors: Multicopy suppressor of sec1; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YNLWsigma2 Protein of unknown function; adjacent to Ty element YDRWsigma5 Protein of unknown function; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YGLCsigma3 Protein of unknown function; adjacent to Ty element YDRCdelta9 Similar to chicken nucleolin; adjacent to Ty element YNRWsigma4 4.1 6.5E-04 Homolog to 14-3-3 protein; adjacent to Ty element YDRCdelta9 Similar to Mei4p and to CREB proteins; adjacent to YIL037C Flavohemoglobin of unknown function; adjacent to PHO8 Similar to Zinc metalloproteinases; adjacent to YOL155C Unknown function; adjacent to Ty element YNRWsigma4 major constituent of the cell wall containing GPI-anchor Component of Pab1p-stimulated poly(A) ribonuclease Cell wall protein; adjacent to TY element YGRWdelta31 Protein of unknown function; adjacent to CWP2 >10/1 5/1 2/1 1:1 1/2 1/5 <1/10 Serine dehydratase; adjacent to YIL169C Basic helix-loop-helix transcription factor Protein of unknown function Description ratio p-value 3.6E-03 2.1E-03 2.7E-03 3.5E-03 3.6E-03 2.6E-04 1.9E-032.1E-03 1.7E-04 2.9E-04 4.6E-04 4.7E-04 8.2E-04 1.1E-03 1.2E-03 1.7E-03 4.9E-04 5.1E-04 after Binding 4.3 3.9 3.4 ratio p-value 2/1 <1:1 6.5E-02 3.2E-03 1.0E+00 9.2E-03 7.3E-01 1.5E-02 1.5E-02 2.4E-02 9.7E-03 .8E-02 1.4E-02 2.0E-02 .3E-02 .2E-02 4.2E-01 3.6E-01 5.7E-01 8.3E-01 5.5E-01 before 3/1 YOL 154W Name **YDR100W** YNR048W YGL050W **YDR281C** YNL043C YKL097C YGR189C YNR053C NR067C **YNR051C** YIL036W CWP2 PAN3 S 4/1 a-60' a-60' a-120' Gal:Sie12 Ge12 A Sie12 A >5/1 Binding Expression 30 10-x

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FIGURE 7C

John Wyrick, et al. Inventors: Multicopy suppressor of sec1; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YDRWsigma5 Protein of unknown function; adjacent to Ty element YNLWsigma2 Protein of unknown function; adjacent to Ty element YGLCsigma3 Protein of unknown function; adjacent to Ty element YDRCdelta9 Similar to chicken nucleolin; adjacent to Ty element YNRWsigma4 4.1 6.5E-04 Homolog to 14-3-3 protein; adjacent to Ty element YDRCdelta9 Similar to Mei4p and to CREB proteins; adjacent to YIL037C Flavohemoglobin of unknown function; adjacent to PH081 Similar to Zinc metalloproteinases; adjacent to YOL155C Unknown function; adjacent to Ty element YNRWsigma4 major constituent of the cell wall containing GPI-anchor Cell wall protein; adjacent to TY element YGRWdelta31 Component of Pab1p-stimulated poly(A) ribonuclease Protein of unknown function; adjacent to CWP2 >10/1 5/1 2/1 1:1 1/2 1/5 <1/10 Serine dehydratase; adjacent to YIL169C Basic helix-loop-helix transcription factor Protein of unknown function Description FIGURE 7C ratio p-value ratio p-value 3.6E-03 2.6E-04 1.7E-04 1.1E-03 1.2E-03 1.7E-03 1.9E-03 2.1E-03 2.1E-03 2.7E-03 3.5E-03 2.9E-04 8.2E-04 3.6E-03 4.6E-04 after $\overline{\overline{\cdot}}$ 2.4E-02 1.0E+00 3.6E-01 6.5E-02 1.5E-02 9.7E-03 2.0E-02 1.3E-02 7.2E-02 4.2E-01 5.7E-01 8.3E-01 1.4E-02 9.2E-03 1.8E-02 7.3E-01 before 7,1 YOL154W 1.0 ف **rNR048W** YDR100W 7KL097C Name YGL050W YNR067C **YDR281C** YNL043C YNR051C YNR053C YGR189C YIL036W CWP2 a-90° a-120° Gal:Ste12 Ste12 ∆ Ste12 ∆ Binding Expression α-0, Ó pefore after

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Genome-Wide Location and Function...

John Wyrick, et al. Inventors: Multicopy suppressor of sec1; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YDRWsigma5 Protein of unknown function; adjacent to Ty element YNLWsigma2 Protein of unknown function; adjacent to Ty element YGLCsigma3 Protein of unknown function; adjacent to Ty element YDRCdelta9 Similar to chicken nucleolin; adjacent to Ty element YNRWsigma4 4.1 6.5E-04 Homolog to 14-3-3 protein; adjacent to Ty element YDRCdelta9 Similar to Mei4p and to CREB proteins; adjacent to YIL037C Flavohemoglobin of unknown function; adjacent to PH081 Unknown function; adjacent to Ty element YNRWsigma4 Similar to Zinc metalloproteinases; adjacent to YOL155C major constituent of the cell wall containing GPI-anchor Cell wall protein; adjacent to TY element YGRWdelta31 Component of Pab1p-stimulated poly(A) ribonuclease Protein of unknown function; adjacent to CWP2 >10/1 5/1 2/1 1:1 1/2 1/5 <1/10 Serine dehydratase; adjacent to YIL169C Basic helix-loop-helix transcription factor Protein of unknown function Description ratio p-value ratio p-value 1.2E-03 1.9E-03 2.1E-03 2.1E-03 2.7E-03 3.5E-03 1.7E-04 2.9E-04 5.1E-04 1.1E-03 1.7E-03 3.6E-03 3.6E-03 8.2E-04 2.6E-04 4.7E-04 4.6E-04 after 1.05+00 6.5E-02 1.5E-02 8.3E-01 2.4E-02 9.7E-03 9.2E-03 7.2E-02 4.2E-01 5.7E-01 1.4E-02 2.0E-02 .3E-02 3.6E-01 .8E-02 5.5E-01 rol154W 1.0 7.3E-01 before 2/1 9. YDR100W 1.1 WR048W YGL050W YKL097C Name YNR067C **INL043C** YDR281C YNR051C YGR189C **rNR053C** YIL036W 4/1 Gal:Ste 12 Ste 12 A Ste 12 A + Expression Binding α -0, after before

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FIGURE 7C

Title: Genome-Wide Location and Function... Inventors: John Wyrick, et al. Multicopy suppressor of sec1; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YDRWsigma5 Protein of unknown function; adjacent to Ty element YNLWsigma2 Protein of unknown function; adjacent to Ty element YGLCsigma3 Protein of unknown function; adjacent to Ty element YDRCdelta9 Similar to chicken nucleolin; adjacent to Ty element YNRWsigma4 4.1 6.5E-04 Homolog to 14-3-3 protein; adjacent to Ty element YDRCdelta9 Similar to Mei4p and to CREB proteins; adjacent to YIL037C Flavohemoglobin of unknown function; adjacent to PHO81 Unknown function; adjacent to Ty element YNRWsigma4 Similar to Zinc metalloproteinases; adjacent to YOL155C major constituent of the cell wall containing GPI-anchor Cell wall protein; adjacent to TY element YGRWdelta31 Component of Pab1p-stimulated poly(A) ribonuclease Protein of unknown function; adjacent to CWP2 >10/1 5/1 2/1 1:1 1/2 1/5 <1/10 Serine dehydratase; adjacent to YIL169C Basic helix-loop-helix transcription factor Protein of unknown function Description FIGURE 7C ratio p-value ratio p-value 2.6E-04 1.7E-04 1.1E-03 1.7E-03 1.9E-032.1E-03 2.1E-03 2.7E-03 3.5E-03 3.6E-03 3.6E-03 2.9E-04 8.2E-04 1.2E-03 after 2/1 <1:1 1.0E+00 2.4E-02 7.2E-02 6.5E-02 9.7E-03 8.3E-01 1.4E-02 9.2E-03 2.0E-02 1.3E-02 4.2E-01 5.7E-01 7.3E-01 .8E-02 3.6E-01 5.5E-01 before YOL154W 1.0 တ 0 ∞ YDR100W 1.1 YNR048W **/GL050W** YKL097C Name rNR067C YNL043C YNR051C YDR281C YNR053C YGR189C **71L036W** CWP2 4/1 Gal:Ste12 Ste12 A Ste12 A + Binding Expression α-0, before after

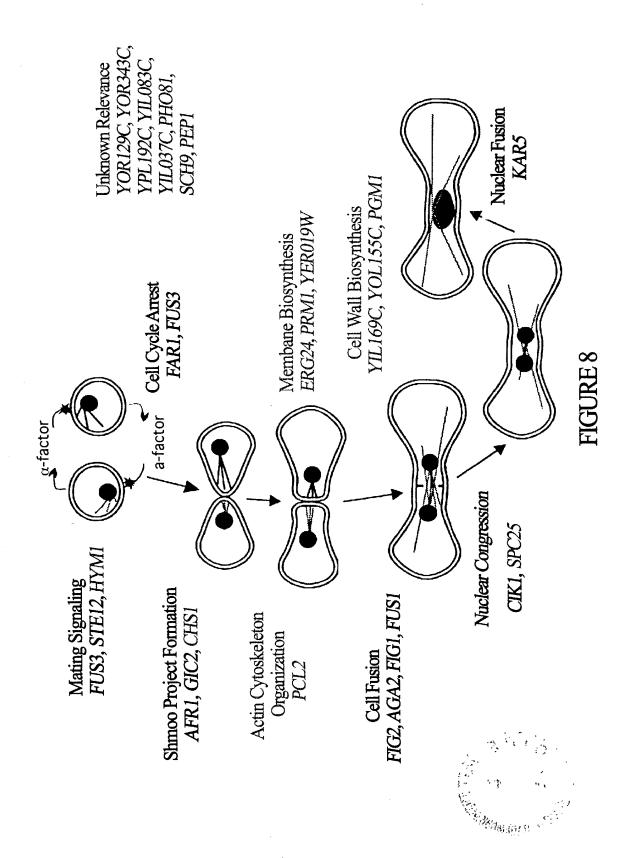
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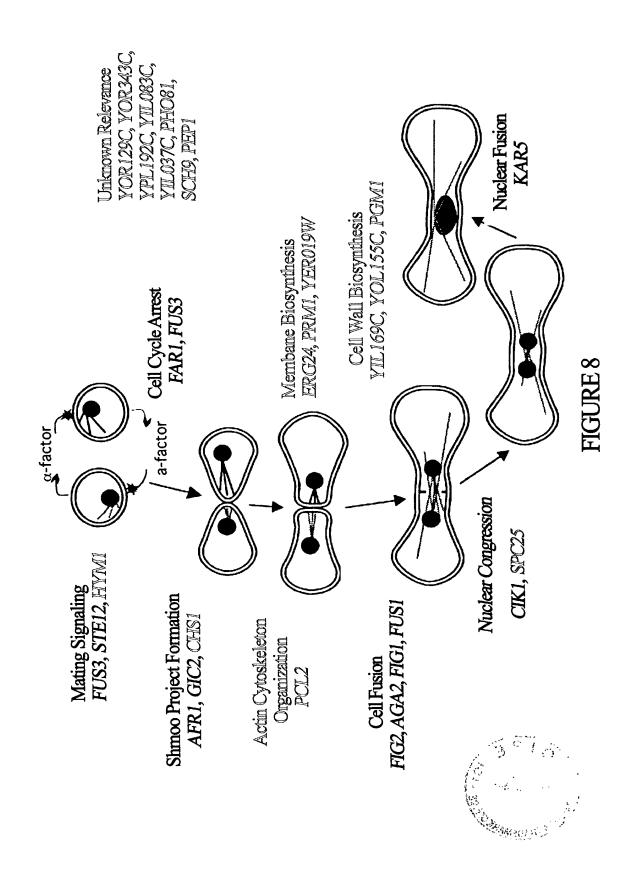
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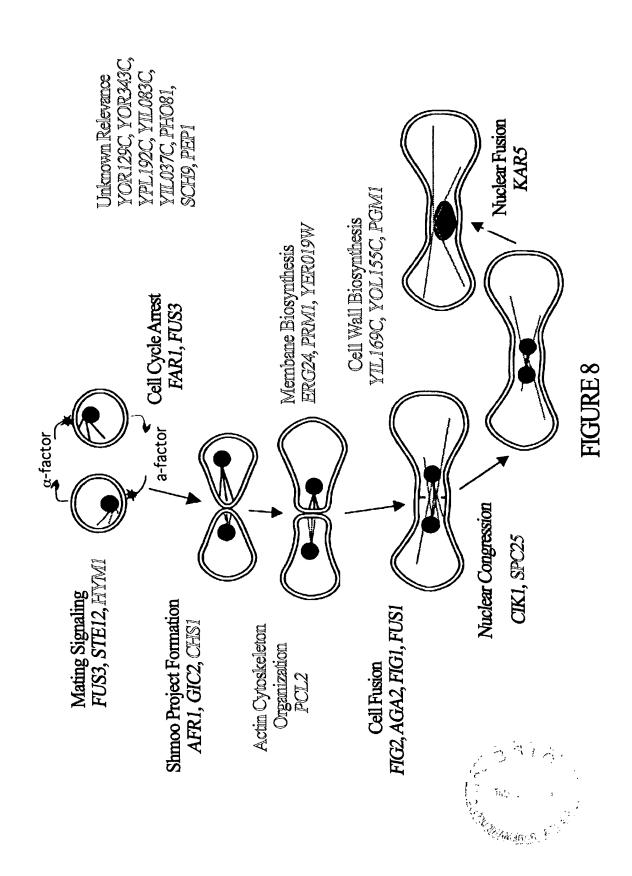
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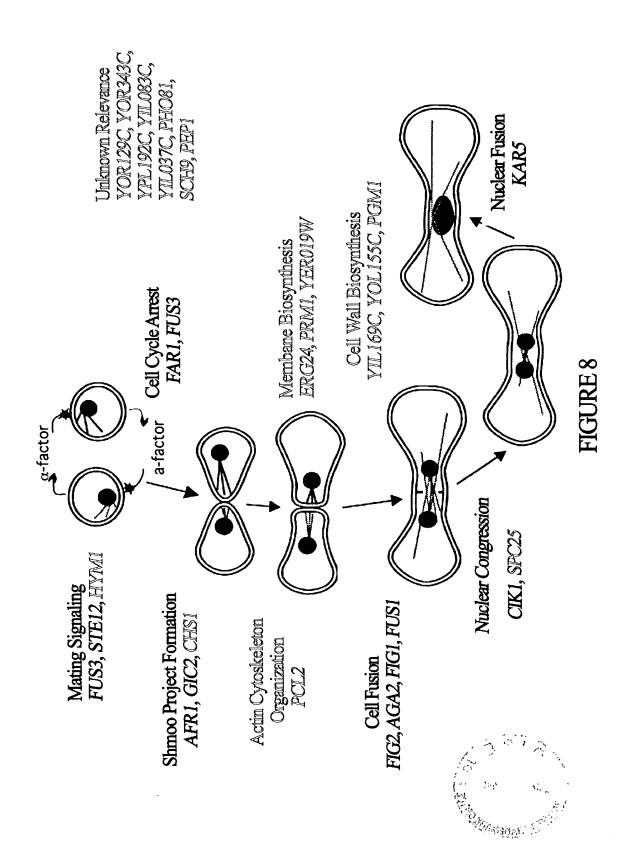
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Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.



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Inventors:

John Wyrick, et al.

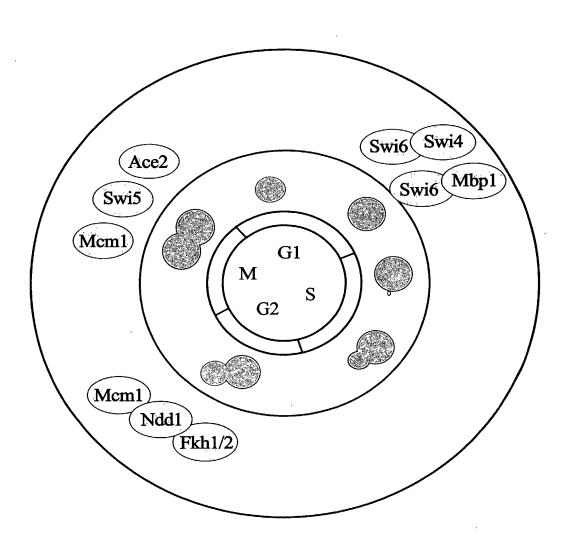


FIGURE 9A



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Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

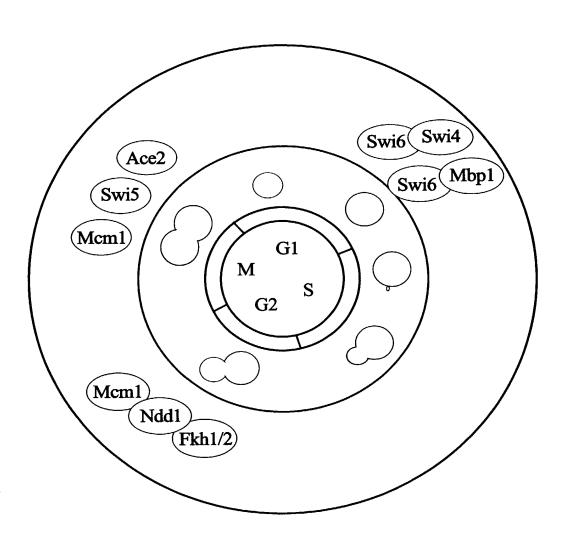


FIGURE 9A



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Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

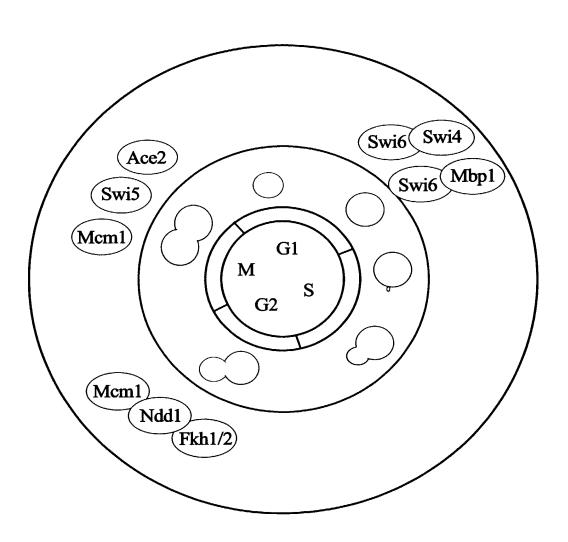


FIGURE 9A



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Inventors:

John Wyrick, et al.

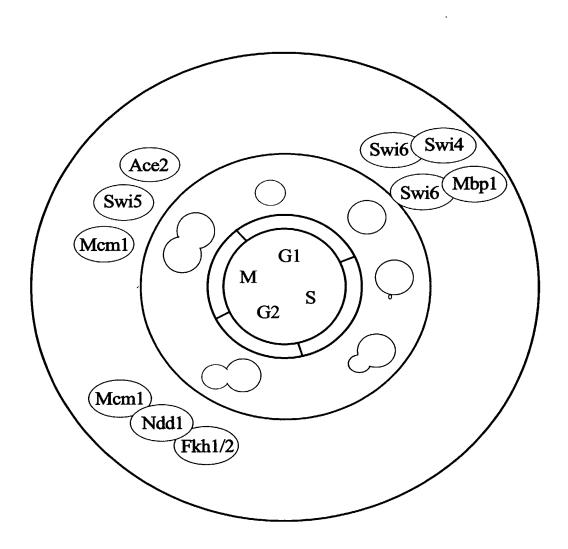


FIGURE 9A



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Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.

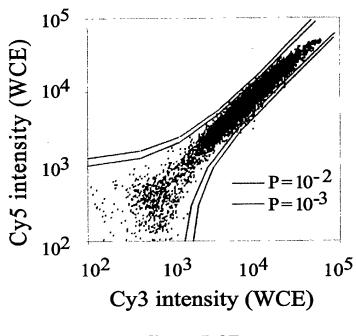
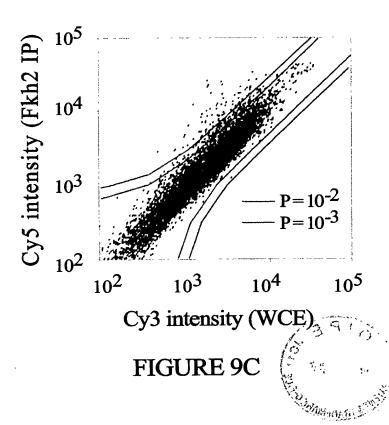


FIGURE 9B



Inventors: John Wyrick, et al.

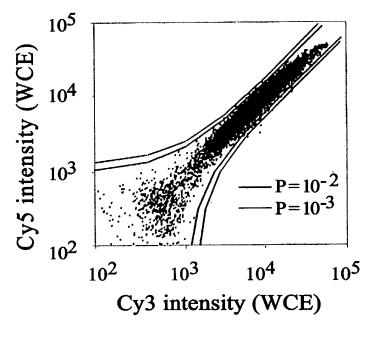


FIGURE 9B

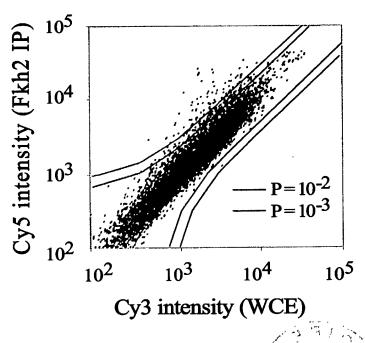


FIGURE 9C

Inventors:

John Wyrick, et al.

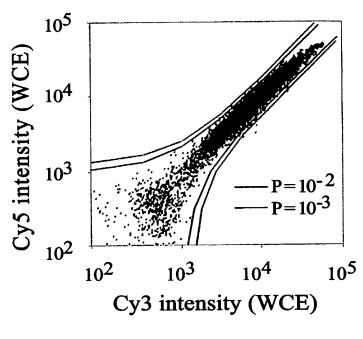


FIGURE 9B

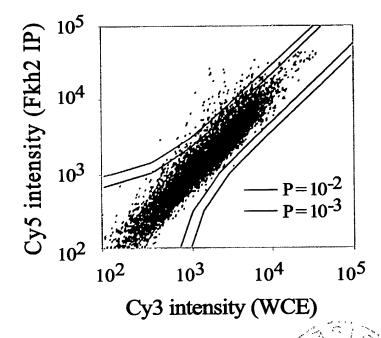


FIGURE 9C

App No.: 10/032,281 Title: Genome-Wide Location and Function... App No.: 10/032,281

John Wyrick, et al. Inventors:

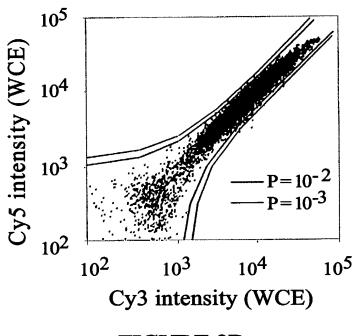


FIGURE 9B

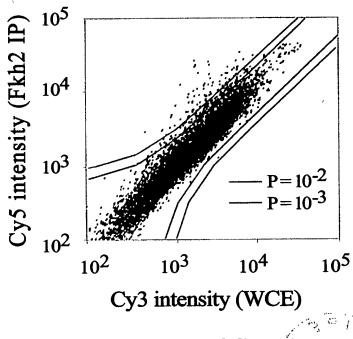


FIGURE 9C

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Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.

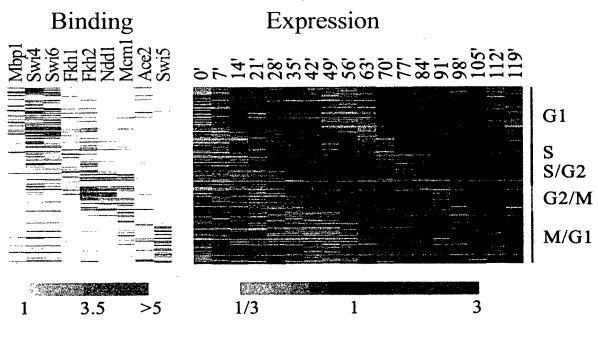
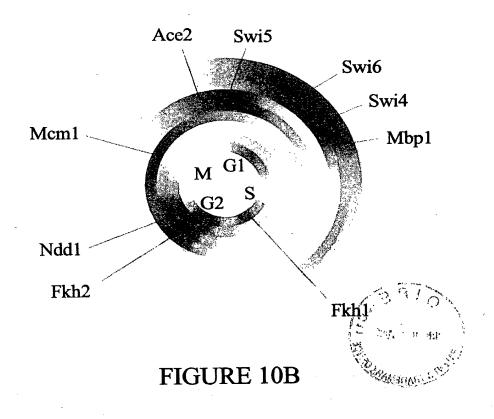
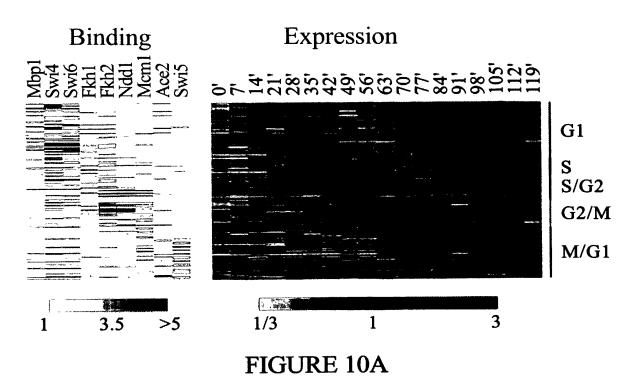


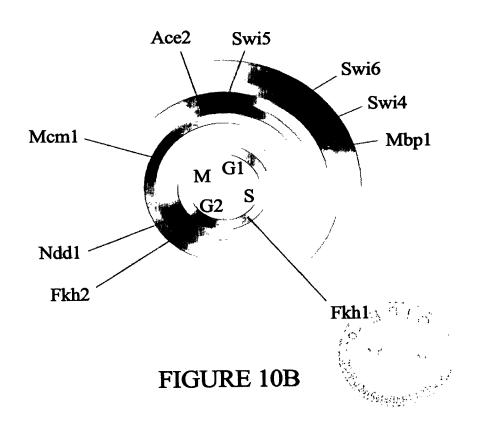
FIGURE 10A



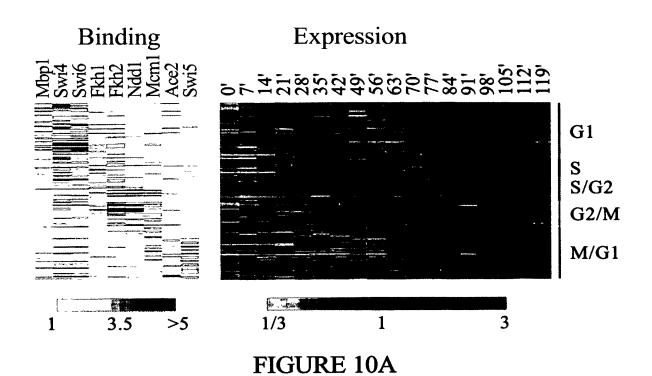
App No.: 10/032,281 250550EBA. AUECUECEE

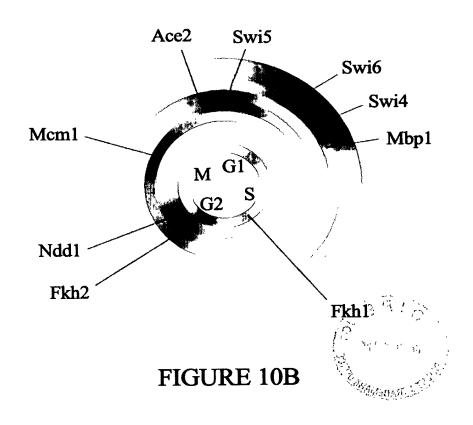
Title: Genome-Wide Location and Function...





Title: Genome-Wide Location and Function...





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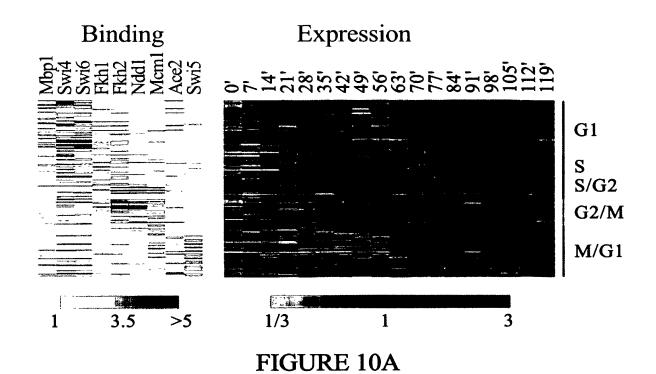
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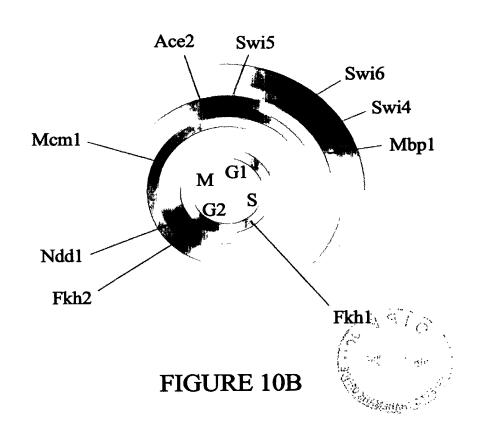
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Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.





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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.

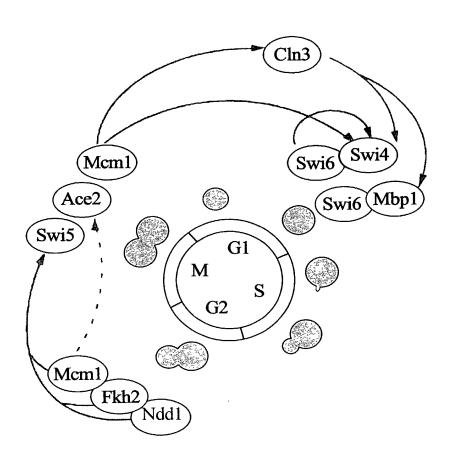


FIGURE 11A



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Title: Genome-Wide Location and Function...

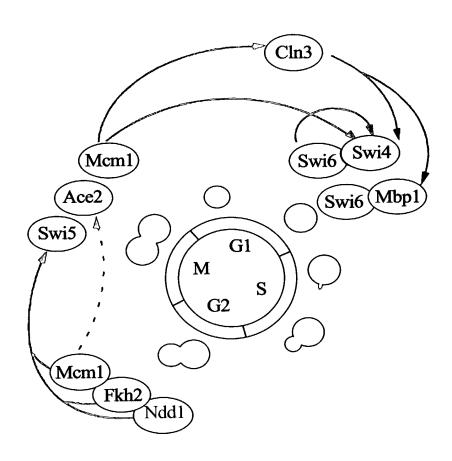


FIGURE 11A



Title: Genome-Wide Location and Function...

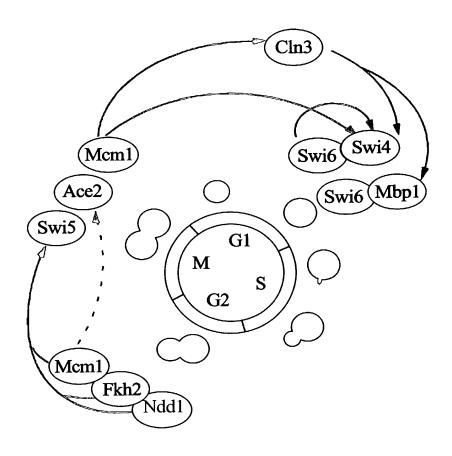


FIGURE 11A



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Title: Genome-Wide Location and Function...

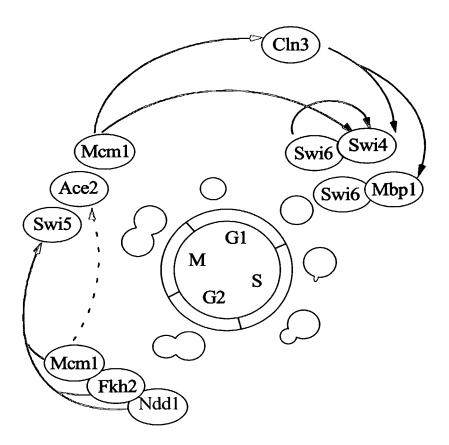


FIGURE 11A



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App No.: 10/032,281 # ### ### Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.

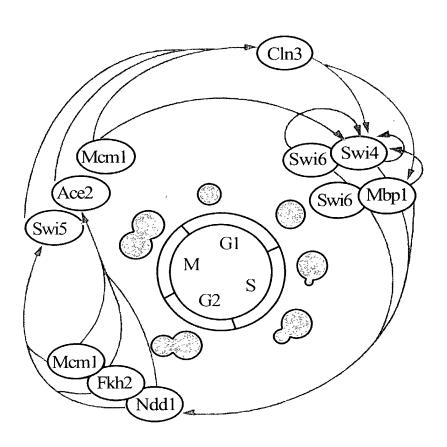


FIGURE 11B



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Title: Genome-Wide Location and Function...

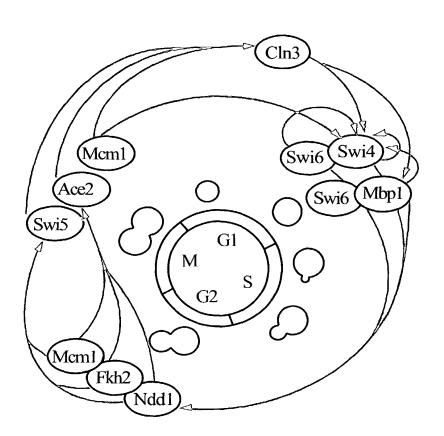


FIGURE 11B



Title: Genome-Wide Location and Function...

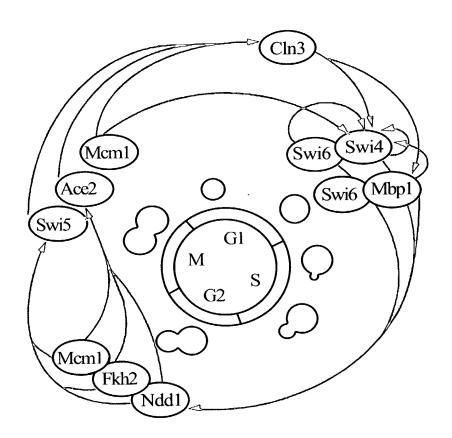


FIGURE 11B



App No.: 10/032,281 IIIII Fig. Title: Genome-Wide Location and Function... LOUSTERS. Dennie

John Wyrick, et al. Inventors:

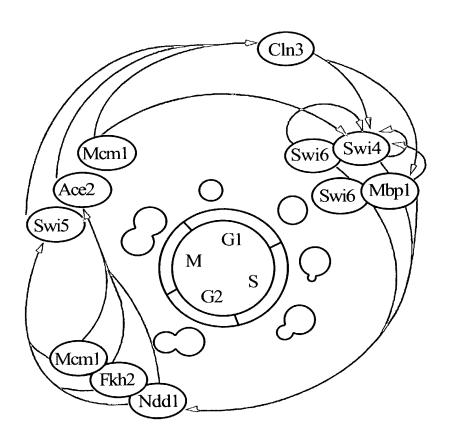


FIGURE 11B



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App No.: 10/032,281 # Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

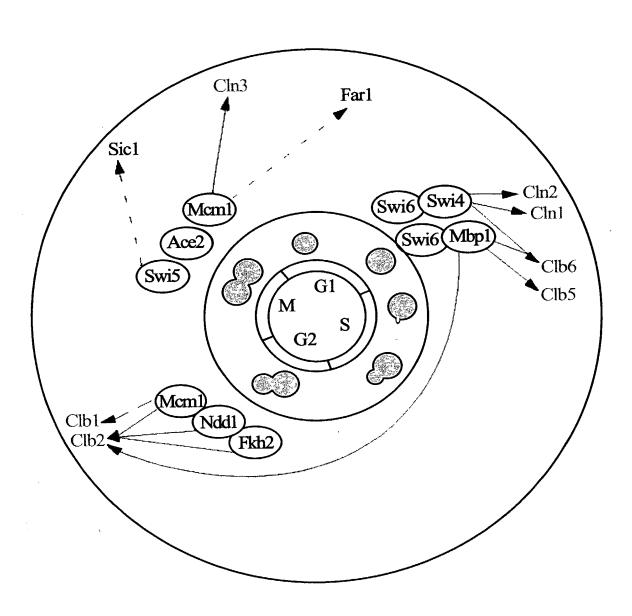


FIGURE 12A



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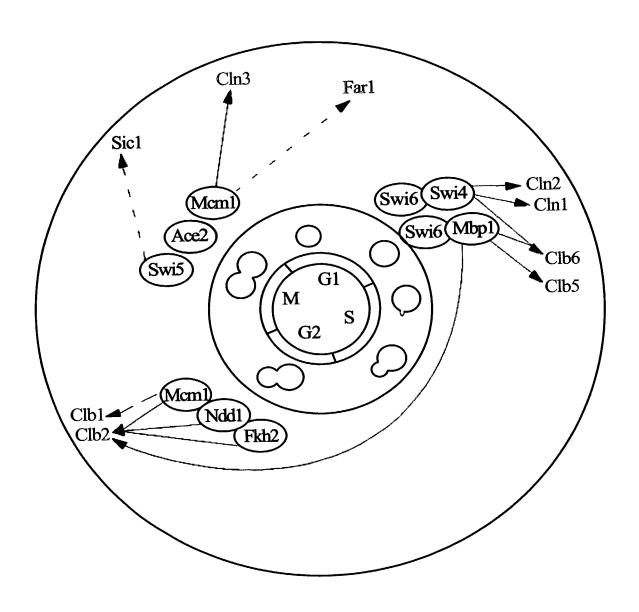


FIGURE 12A



Inventors:

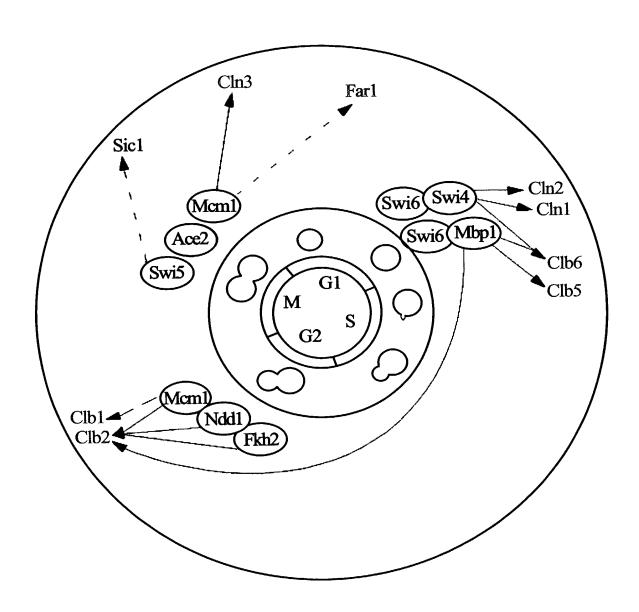


FIGURE 12A



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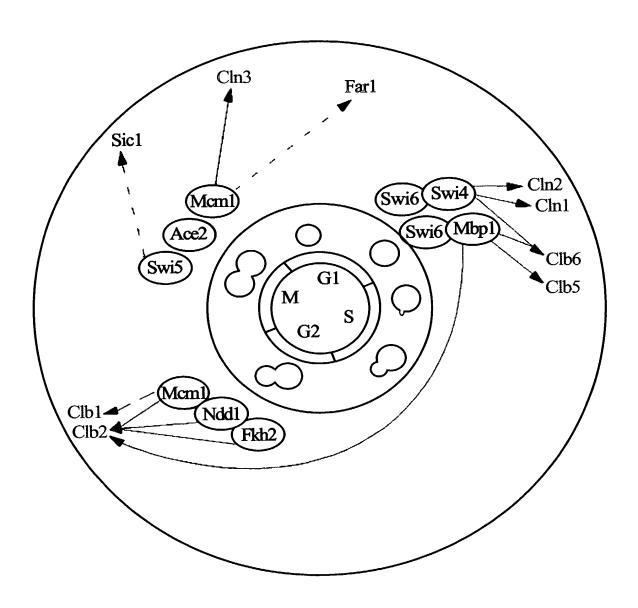


FIGURE 12A



App No.: 10/032,281 10/032 Title: Genome-Wide Location and Function...

Inventors:

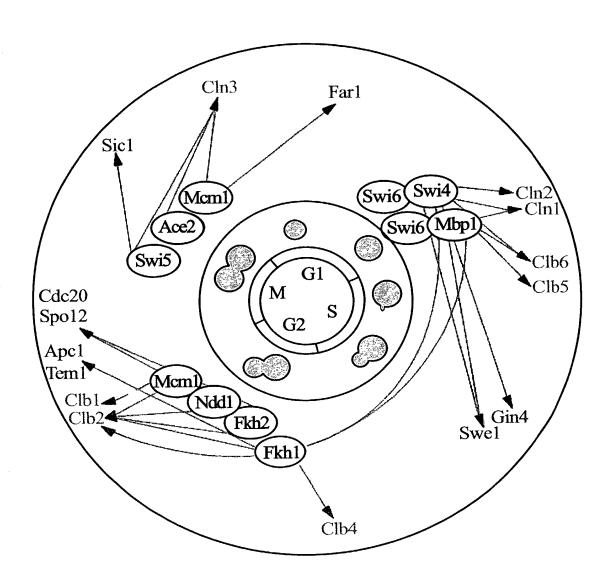


FIGURE 12B



App No.: 10/032,281 Title: Genome-Wide Location and Function...

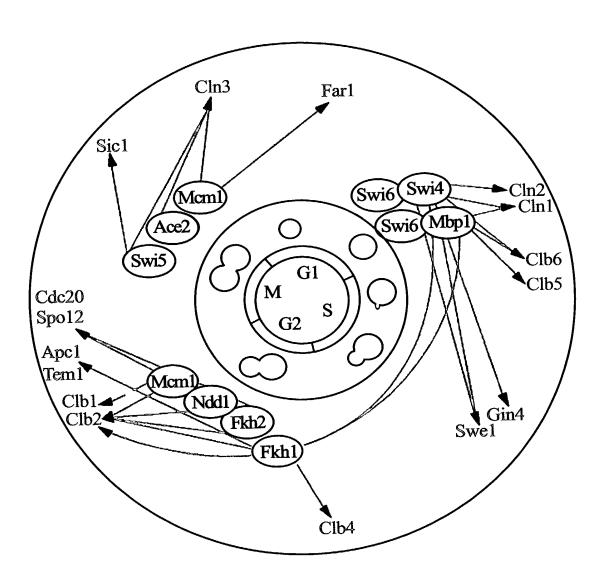


FIGURE 12B

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

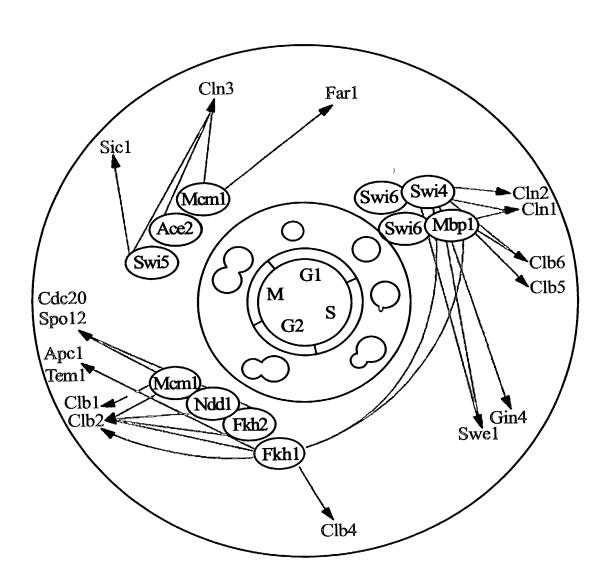


FIGURE 12B

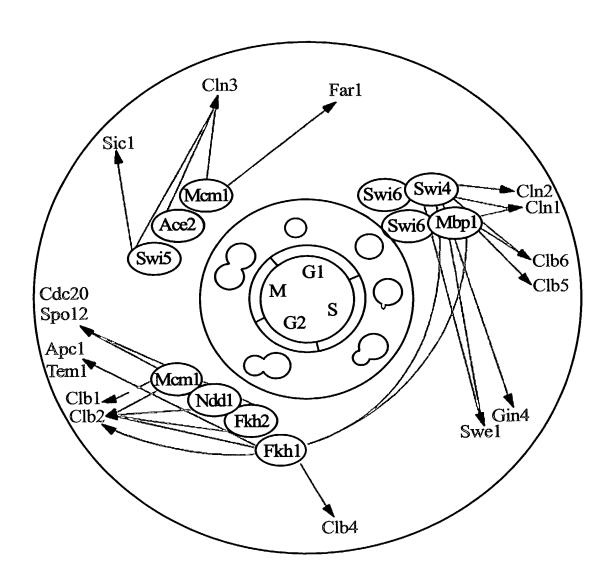
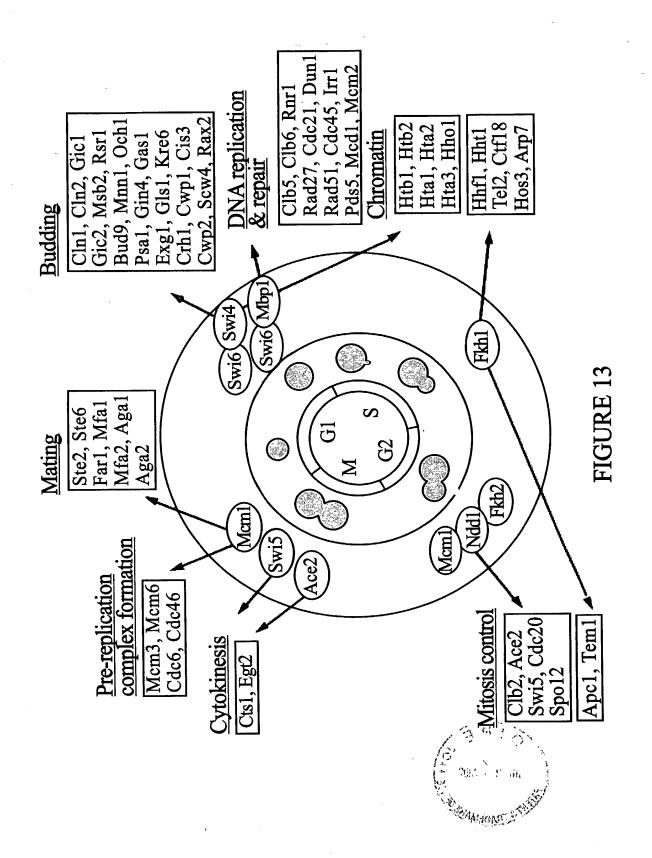


FIGURE 12B

App No.: 10/032,281 LICEPELLOSUE Title: Genome-Wide Location and Function...

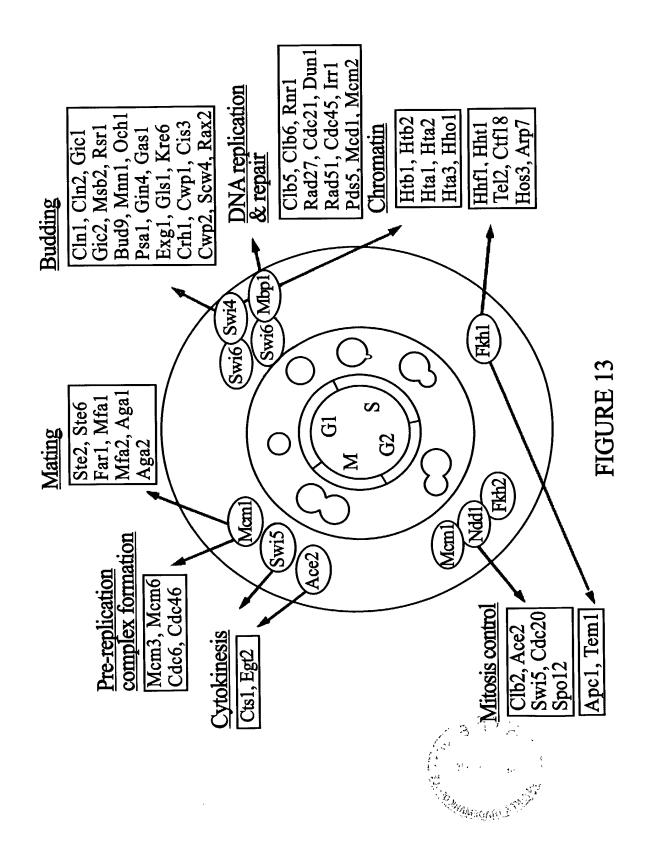
Inventors:



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App No.: 10/032,281 4 FIGURE Title: Genome-Wide Location and Function...

Inventors:

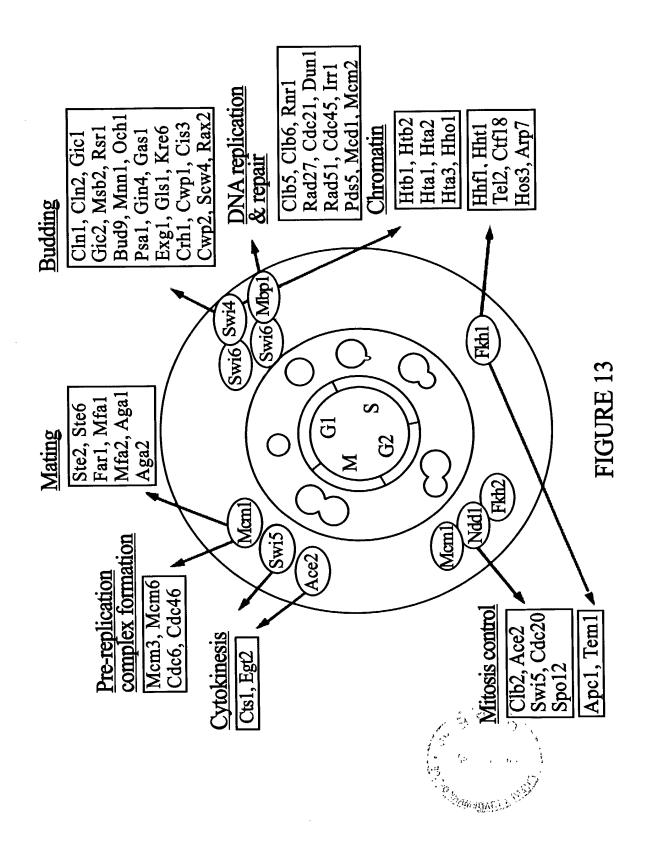


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App No.: 10/032,281 LILLER Title: Genome-Wide Location and Function...

Inventors:



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Inventors: John Wyrick, et al.

